

REMARKS

The Office Action dated April 5, 2006, has been received and carefully noted. The above amendments to the claims and the following remarks are submitted as a full and complete response thereto. Claim 1-46 are submitted for consideration.

Claims 1, 2, 16, 17, 32 and 33 have been amended to more particularly point out and distinctly claim the subject matter of the invention. No new matter has been added, and no new issues are raised which require further consideration and/or search. Claims - 1-46 are submitted for consideration.

Claims 1, 16 and 32 were rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Publication No. 20030195962 (Kikuchi). The rejection is traversed as being based on a reference that neither teaches nor suggests the novel combination of features clearly recited in independent claims 1, 16 and 32.

Claim 1, upon which claims 2-15 depend, recites a method for choosing a network element of a mobile telecommunication network from a plurality of network elements in order to provide a predetermined service. The method includes the steps of choosing a server pool, the server pool being composed of the plurality of network elements of the mobile telecommunication network, all of which provide the same predetermined service and defining a pool handle, wherein a pool handle is a name which identifies the server pool. The method also includes providing a name server for handling requests from a pool user to the server pool, wherein the name server identifies a request to the server pool by means of the pool handle and selects according to predetermined criteria the

network elements for providing the predetermined service. The plurality of network elements are radio network controllers, the request to be handled is a paging request from a core network acting as a pool user, and the service to be provided is transmitting a paging message to a predetermined user equipment.

Claim 16, upon which claims 17-31 depend, recites a mobile telecommunication network that includes a server pool having a plurality of network elements of the mobile telecommunication network, all of which provide a same predetermined service. The network also includes a pool handle, wherein a pool handle is a name, which identifies the server pool, and a name server for handling requests from a pool user to the server pool, wherein the name server is adapted to identify a request to the server pool by means of the pool handle and selecting according to predetermined criteria the network elements for providing the predetermined service. The plurality of network elements are radio network controllers, the request to be handled is a paging request from a core network acting as a pool user, and the service to be provided is transmitting a paging message to a predetermined user equipment.

Claim 32, upon which claims 33-46 depend, recites a mobile telecommunication network allowing choice of a network element from a plurality of network elements in order to provide a predetermined service. The network includes choosing means for choosing a server pool, the server pool being composed of the plurality of network elements of the mobile telecommunication network, all of which provide the same predetermined service and defining means for defining a pool handle, wherein a pool

handle is a name which identifies the server pool. The network also includes name serving means for serving handling requests from a pool user to the server pool, wherein the name serving means identifies a request to the server pool by means of the pool handle and selects according to predetermined criteria the network elements for providing the predetermined service. The plurality of network elements are radio network controllers, the request to be handled is a paging request from a core network acting as a pool user, and the service to be provided is transmitting a paging message to a predetermined user equipment.

As outlined below, Applicant submits that the cited reference of Kikuchi does not teach or suggest the elements of claims 1, 16 and 32.

Kikuchi discloses a directory system that includes a switch, two directory servers and three clients. The switch includes a server pool definition file for defining a group of servers to which a load is to be distributed. An administrator describes the names of the plurality of servers to which load is to be distributed in the server pool definition file. When the switch is started, a connection managing unit of the switch establishes a LDAP connection which each server in the server pool, reads the server name described at the head of the server pool definition file, build up a Bind request of establishing LDAP connection with the server, and requests the server communication control unit to send the server. (Paragraphs 0026-0033.) When the client communication control unit receives a request from the client, a request distribution unit selects the most suitable server from the server pool and sends the request to the selected server.

Applicant submits that the cited reference does not teach or suggest all of the elements of claims 1, 16 and 32. Claims 1, 16 and 32 each recites, in part, choosing a server pool, the server pool being composed of the plurality of network elements of the mobile telecommunication network, all of which provide the same predetermined service. Kikuchi, unlike the invention which refers to the mobile telecommunication field, relates to the computer field, and more particularly, to an information processing system between a directory client and a directory server through a LAN. See at least Figure 1 of Kikuchi. Therefore, Applicant submits that Kikuchi does not teach or suggest choosing a server pool, the server pool being composed of the plurality of network elements of the mobile telecommunication network, all of which provide the same predetermined service, as recited in claims 1, 16 and 32.

Furthermore, each of claims 1, 16 and 32 recite, in part, that the plurality of network elements are radio network controllers, the request to be handled is a paging request from a core network acting as a pool user, and the service to be provided is transmitting a paging message to a predetermined user equipment. There is no teaching or suggestion in Kikuchi that the plurality of network elements are radio network controllers, the request to be handled is a paging request from a core network acting as a pool user, and the service to be provided is transmitting a paging message to a predetermined user equipment, as recited in claims 1, 16 and 32. Therefore, Applicant respectfully asserts that the rejection under 35 U.S.C. §102(e) should be withdrawn

because Kikuchi simply does not teach or suggest all of the elements of claims 1, 16 and 32.

Claims 2-3, 6, 10, 17-18, 21, 25, 28, 33-34, 37 and 41 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi in view of U.S. Patent No. 6,826,198 (Turina). According to the Office Action, although Kikuchi teaches all of the elements of claims 2-3, 6, 10, 17-18, 21, 25, 28, 33-34, 37 and 41, Kikuchi does not teach a method and a network wherein the plurality of network elements are radio network controllers according to the UMTS standard, the request to be handled is a paging request from a core network element acting as a pool user, where the core network element is one of a mobile services switching center and a serving GPRS support node, and the service to be provided is transmitting a paging message to a predetermined user equipments. Thus, the Office Action combined Turina and Kikuchi to yield all of the elements of claims 2-3, 6, 10, 17-18, 21, 25, 28, 33-34, 37 and 41. The rejection is traversed as being based on references that neither teach nor suggest the novel combination of features clearly recited in independent claims 1, 16 and 32, upon which claims 2-3, 6, 10, 17-18, 21, 25, 28, 33-34, 37 and 41 depend.

Turina provides mobile switching apparatuses supporting a pool concept and having the capability of relaying a paging request issued by a mobile switching apparatus of the pool. See at least page 2, paragraph 0031. Thus, Turina differs from the present invention. Specifically, in Turina, the pool concept is supported by the server RNC and not by the core network elements (MSC), as recited in claim 1. Moreover, the object of

Turina is to extend the service capability of cellular mobile communications network, by extending an already existing mobile switching apparatus pool with additional mobile switching apparatuses. See at least page 2, paragraph 0032 of Turina. The present invention on the other hand, makes the pool users, both MSC and SGSN, less complex when paging, by providing a pool handle and the associated service order to access a pool element, as recited in claims 1, 16 and 32.

In addition, Turina does not cure the deficiencies of Kikuchi, as outlined above. Specifically, Turina does not teach or suggest choosing a server pool, the server pool being composed of the plurality of network elements of the mobile telecommunication network, all of which provide the same predetermined service and that the plurality of network elements are radio network controllers, the request to be handled is a paging request from a core network acting as a pool user, and the service to be provided is transmitting a paging message to a predetermined user equipment, as recited in claims 1, 16 and 32.

Furthermore, as noted above, the field of present invention is mobile telecommunication which is different from the computer field of Kikuchi. Thus, no motivation is provided by the teachings of Turina and Kikuchi to one skilled in the art to combine Turina with Kikuchi. Specifically, there is no motivation to one skilled in the art to depart from the known solution and to refer to the server pooling architecture described in Turina, so as to provide a pool handle and name server for identifying an unknown pool of servers, as recited in the presently pending claims. Therefore,

Applicant respectfully asserts that the rejection under 35 U.S.C. §103(a) should be withdrawn because neither Kikichi nor Turina, whether taken singly or combined, teaches or suggests each feature of claims 1, 16 and 32 hence, dependent claims 2-3, 6, 10, 17-18, 21, 25, 28, 33-34, 37 and 41 thereon.

Claims 4, 19 and 35 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi in view of Turina and International Publication No. WO 20/071776 (Artola). According to the Office Action, although Kikuchi and Turina teach all of the elements of claims 4, 19 and 35, they do not teach a method and network wherein the name server accesses a location area or a routing area, which indicate the are in which the user equipment is currently located and selects a radio controller which is close enough to the user equipment for transmitting a paging message to predetermined user equipment. Thus, the Office Action combined Kikuchi, Turina and Artola to yield all of the elements of claims 4, 19 and 35. The rejection is traversed as being based on references that neither teach nor suggest the novel combination of features clearly recited in independent claims 1, 16 and 32, upon which claims 4, 19 and 35 depend.

Artola discloses that the server pool CNSP includes two network servers MSC1 and MSC2, both being of the same type as either MSC or SGSN. See at least page 18, lines 8-10 of Artola. Moreover, Artola discloses that the controller BSC2 can be a RNC for a UMTS system and may execute a selection of one of the network servers MSC1 and MSC2 in the server pool CNSP, the selection made by the controller BSC2 being based on location information of the mobile device MS. See page 20, lines 10-17. Thus,

Applicant submits that the subject-matter recited in claims 4, 19 and 35 of the present invention differs from the teaching of Artola by the fact that the selection based on location information of the mobile device MS is made by the name server and not by the controller BSC2 (RNC). Furthermore, Artola relates to a network server (MSC1 and MSC2) forming a server pool and hence exhibits an architecture totally different from that recited in the present invention wherein the pooling only concerns the plurality of network elements such as RNCs. In addition, Artola provides no incentive to one skilled in the art to for the skilled person to depart from this known solution of Turina and to refer to the server pooling architecture described in Artola alone or in combination with Turina and Kikuchi, and to provide a pool handle and name server for identifying an unknown pool of RNCs as recited in the present invention.

Artola also does not cure the deficiencies of the combination of Kikuchi and Turina, as outlined above. Specifically, Artola does not teach or suggest choosing a server pool, the server pool being composed of the plurality of network elements of the mobile telecommunication network, all of which provide the same predetermined service and that the plurality of network elements are radio network controllers, the request to be handled is a paging request from a core network acting as a pool user, and the service to be provided is transmitting a paging message to a predetermined user equipment, as recited in claims 1, 16 and 32. Therefore, Applicant respectfully asserts that the rejection under 35 U.S.C. §103(a) should be withdrawn because neither Kikichi, Artola nor Trunia,

whether taken singly or combined, teaches or suggests each feature of claims 1, 16 and 32 hence, dependent claims 4, 19 and 35 thereon.

Claims 5, 7, 11-13, 20, 22, 26-27, 36, 38, and 42-44 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi in view of Turina and U. S. Patent No. 6,091,953 (Ho). The Office Action indicated that the combination of Kikuchi and Turina does not teach a method and network wherein the name server checks whether the predetermined user equipment is assigned to a particular radio controller and selects the particular radio controller for paging. Thus, the Office Action combined Kikuchi, Turina and Ho to yield all of the elements of claims 5, 7, 11-13, 20, 22, 26-27, 36, 38, and 42-44. The rejection is traversed as being based on references that neither teach nor suggest the novel combination of features clearly recited in independent claims 1, 16 and 32, upon which claims 5, 7, 11-13, 20, 22, 26-27, 36, 38, and 42-44 depend.

Ho discloses a wireless communication system which assigns each serviced mobile unit to a serving MSC to minimize mobility management overhead and to equalize load among a plurality of MSCs. In such assignment operations, the MSCs assign temporary identifiers from their own pool of such numbers, each identifying the MSC. A message router intercepts signaling messages and extracts a temporary ID from which it determines the serving MSC and routes the intercepted signaling message to the determined serving MSC.

Applicant submits that the temporary ID of Ho identifies a specific serving MSC, but not a pool of servers which provide the same predetermined service as recited in the present application. Ho also does not cure the deficiencies of the combination of Kikuchi and Turina, as outlined above. Specifically, Ho does not teach or suggest choosing a server pool, the server pool being composed of the plurality of network elements of the mobile telecommunication network, all of which provide the same predetermined service and that the plurality of network elements are radio network controllers, the request to be handled is a paging request from a core network acting as a pool user, and the service to be provided is transmitting a paging message to a predetermined user equipment, as recited in claims 1, 16 and 32.

Applicant also submits that no incentive is given for one skilled in the art to depart from the known solution of Turina to refer to the server pooling architecture described in Ho, alone or in combination with Turina and Kikuchi, to provide a pool handle and name server for identifying an unknown pool of RNCs, as recited in the pending claims. Therefore, Applicant respectfully asserts that the rejection under 35 U.S.C. §103(a) should be withdrawn because neither Kikuchi, Ho nor Turina, whether taken singly or combined, teaches or suggests each feature of claims 1, 16 and 32 hence, dependent claims 5, 7, 11-13, 20, 22, 26-27, 36, 38, and 42-44 thereon.

Claims 8-9, 23-24 and 39-40 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi in view of Turina and U. S. Publication No. 10030076803

(Chuah). The Office Action indicated that Kikuchi and Turina fail to teach a method and network wherein the name server creates a ranking list of the radio controllers capable of transmitting a paging message to the predetermined user equipment, wherein a first radio controller is in the list most favorable to perform paging and a last radio controller in the list is a least favorable to perform paging. Thus, the Office Action combined Kikuchi, Turina and Chuah to yield all of the elements of 8-9, 23-24 and 39-40. The rejection is traversed as being based on references that neither teach nor suggest the novel combination of features clearly recited in independent claims 1, 16 and 32, upon which claims 8-9, 23-24 and 39-40 depend.

Chuah relates to a network architecture between a group of Node Bs and a group of RNCs. In particular, this network architecture is called a reconfigurable network architecture due to the fact that a fixed association between a RNC and allocated Node Bs is not given. The underlying problem of Chuah resides in that the conventional server RNC (SRNC)/drift RNC (DRNC) concept results in large differential delays in soft handover cases, caused by a delay introduced by the extra hop between the SRNC and the DRNC. See page 2, paragraph 0010 of Chuah. The reconfigurable IP-based network architecture between the Node Bs and the RNCs enables direct connections between each of the Node Bs (base stations) and each of the RNCs during soft handover, which reduces the need for having additional DRNCs beyond the SRNC involved in communications with wireless terminals.

Chuah also does not cure the deficiencies of the combination of Kikuchi and Turina, as outlined above. Specifically, Chuah does not teach or suggest choosing a server pool, the server pool being composed of the plurality of network elements of the mobile telecommunication network, all of which provide the same predetermined service and that the plurality of network elements are radio network controllers, the request to be handled is a paging request from a core network acting as a pool user, and the service to be provided is transmitting a paging message to a predetermined user equipment, as recited in claims 1, 16 and 32.

Chuah relates to a different network level and a different situation as compared to the subject-matter of the present invention. Although in paragraph 0022 of Chuah, treatment of the RNCs as a pool is described, the location of the concerned wireless terminal and thus the addressed pool of the RNCs is always known, such that the proposed RNC assignment function merely receives a request for a RNC but not a pool handle which defines a particular server pool, as recited in the present claims. The RNC assignment function of Chuah does not require a name server functionality, but merely serves to select an optimum RNC in terms of delay and/or load reduction. Moreover, facing the aforementioned objective problem of selecting an unknown pool of RNC's such as defined in the present invention, Chuah suggests a totally different solution, namely to maintain RNC lists at each particular Node B, such that the Node B can decide how to route call setup requests for a wireless unit using schemes or the RNC assignment

system. See paragraph 0022, first sentence of Chuah. Therefore, the Node B of Chuah knows the selectable RNCs which can be used for routing service requests. Therefore, no incentive is given to the skilled person to depart from this known solution of Turina and Kikuchi and to refer to the server pooling architecture described in Chuah, alone or in combination with Turina and Kikuchi, and to provide a pool handle and name server for identifying an unknown pool of RNCs, as recited in the presently pending claims. Therefore, Applicant respectfully asserts that the rejection under 35 U.S.C. §103(a) should be withdrawn because neither Kikuchi, Chuah nor Trunia, whether taken singly or combined, teaches or suggests each feature of claims 1, 16 and 32 hence, dependent claims 8-9, 23-24 and 39-40 thereon.

Claims 14, 29 and 45 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi in view of Turina and U. S. Publication No. 20010030940 (Musikka). The Office Action indicated that Kikuchi and Turina fail to teach a method and network where network elements are a plurality of gateway servers of an IP based radio access network, wherein the IP based radio access network is one of radio access network gateways and circuit switched gateways, and the pool user is a radio access network access server. Thus, the Office Action combined Kikuchi, Turina and Musikka to yield all of the elements of 14, 29 and 45. The rejection is traversed as being based on references that neither teach nor suggest the novel combination of features clearly recited in independent claims 1, 16 and 32, upon which claims 14, 29 and 45 depend.

Musikka also does not cure the deficiencies of the combination of Kikuchi and Turina, as outlined above. Specifically, Musikka does not teach or suggest choosing a server pool, the server pool being composed of the plurality of network elements of the mobile telecommunication network, all of which provide the same predetermined service and that the plurality of network elements are radio network controllers, the request to be handled is a paging request from a core network acting as a pool user, and the service to be provided is transmitting a paging message to a predetermined user equipment, as recited in claims 1, 16 and 32. Therefore, Applicant respectfully asserts that the rejection under 35 U.S.C. §103(a) should be withdrawn because neither Kikuchi, Musikka nor Trunia, whether taken singly or combined, teaches or suggests each feature of claims 1, 16 and 32 hence, dependent claims 14, 29 and 45 thereon.

Claims 15, 30-31 and 46 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi in view of Artola. The Office Action indicated that Kikuchi fails to teach a method and network wherein the plurality of network elements are network servers serving GPRS support nodes or gateway GPRS support nodes. Thus, the Office Action combined Kikuchi and Artola to yield all of the elements of 15, 30-31 and 46. The rejection is traversed as being based on references that neither teach nor suggest the novel combination of features clearly recited in independent claims 1, 16 and 32, upon which claims 15, 30-31 and 46 depend.

As noted above, Artola does not cure the deficiencies of the combination of Kikuchi, as outlined above. Specifically, Artola does not teach or suggest choosing a server pool, the server pool being composed of the plurality of network elements of the mobile telecommunication network, all of which provide the same predetermined service and that the plurality of network elements are radio network controllers, the request to be handled is a paging request from a core network acting as a pool user, and the service to be provided is transmitting a paging message to a predetermined user equipment, as recited in claims 1, 16 and 32. Therefore, Applicant respectfully asserts that the rejection under 35 U.S.C. §103(a) should be withdrawn because neither Kikuchi, nor Artola, whether taken singly or combined, teaches or suggests each feature of claims 1, 16 and 32 hence, dependent claims 15, 30-31 and 46 thereon.

Furthermore, Applicant respectfully submits that the Office Action has now pieced together six references to teach the claimed invention. However, MPEP 2143.01 instructs that “[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In re Mills, 916 F.2d 680, 16 USPQ 2d 1430 (Fed. Cir. 1990).” MPEP 2143.01 further instructs that “[a]lthough a prior art device ‘may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so.’” Applicant respectfully submits that the cited references do not provide such a suggestion or motivation. Applicant submits that the

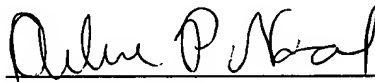
only motivation to piece together the five references of the Office Action is found in Applicant's own application as taught in the specification and recited in the claims`.

As noted previously, claims 1-46 recite subject matter which is neither disclosed nor suggested in the prior art references cited in the Office Action. It is therefore respectfully requested that all of claims 1-46 be allowed and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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